

WILD ELEPHANTS IN ASSAM.

BY

J. E. HALL.

(*With a plate*).

There must be dozens of shikaris, like myself, who have been, or are mad keen to 'bag' a Rogue Elephant. Well Assam is the place for them to go to. For years, one of my boyhood ambitions had been to track and shoot elephants. 'Thirteen years amongst the Wild Beasts of India' by that famous 'Hathi-King' G. P. Sanderson, served to keep the flame of desire burning bright. That ambition was eventually realised after twenty years.

A few years back the shooting of elephants, except for an occasional 'Proscribed Rogue', was totally prohibited. Such Rogues when very occasionally proclaimed, were soon destroyed by local sportsmen; long before any '*bandobast*' could be made by an outsider. The steadily increasing popularity of the motor-car has however ousted the elephant from favour; and the present demand for these useful beasts from Rajas and wealthy Indians is very small in comparison to former years. With little or no organised Keddah catching operations and strict protection, wild elephants have so increased in numbers that in certain areas they are a menace to cultivators; and as a result have to be controlled.

Early in 1938, several 'Rogues' were proscribed in various parts of Assam and I made up my mind rather suddenly to have a try at shooting some of these. Imagine me, therefore, having landed in Gauhati, without any '*pucca bandobast*', not even knowing where to go to find elephants. Luckily there was an old school-fellow stationed there: and he very kindly gave me a letter of introduction to the local Forest Officer.

In the course of my Shikar wanderings throughout India, I have met dozens of Government officials; but for 100 per cent. sheer sportsmen give me those of the I. F. S. The local D. F. O. not knowing me from Adam, was the sheet anchor of my hopes; and believe me I was not disappointed. Within a few hours he had fixed me up with an Elephant Control License which empowered me to shoot any solitary male elephant. Tuskers to be balanced by Makhnas. He also advised me in what areas in his Division elephants were reported to be doing damage and, as a final effort, gave me a letter to his subordinate officers, asking them to help me in my trip. As an A. 1 sportsman, in the true sense of the word, I take my hat off to that D. F. O. May his shadow never grow less. Having arrived at a place called Ranigodam, near where a Rogue had been reported, I installed myself in the local Dak-Bungalow. This is where I came up—hard—against the Assamese villager. Not a man, cart, or service of any description were to be hired or bought. Payment was no consideration, they just would not face the work. Quite possibly some of the 'Mahaldars' or lessees of elephant catching, who were operating in that area, engineered this boycott.

They probably reasoned that if I started shooting bull elephants their operations would be spoilt by the wild elephants retiring back into tribal territory. Nor could I hire tame elephants, they were all engaged in *Mela-Shikar*. I was now in despair; the immediate prospects of success were very remote. At this very unpleasant moment, the D. F. O's ranger came to the rescue. A very quiet and reserved young man, his suggestion was that I shift my camp to a village called Chakardah, about 6 miles away; and that at this village I could get into touch with a retired pensioner of the Assam Rifles, a Gurkha, called Balbahadur, who had the reputation of being a famous shikari.

We decided on action, it took 8 hours to raise a bullock cart from the villagers; yet when it was produced the hire demanded was reasonable enough. This I personally paid into the village head-man's hands, and he seemed surprised to get it. It afterwards transpired that the Mahaldars had let out a rumour to the effect that I was requisitioning men and carts without payment, being a military officer. What a libel on the unfortunate military! Later on the Mahaldars became friendly, when they realised that I was not interfering with their business.

Having set out in pouring rain, I arrived like a drowned rat, to find Chakardah most depressing. A fairly large village nestling at the foot of dense jungle clad hills, with a large swampy lake as a foreground, and a few paddy fields scattered about. We managed to get shelter in the Forest Guard's *chowki*, a single-roomed hut, that bore evidences of a recent attempt by a wild elephant to pull it down. It was quite isolated, having as its solitary neighbour Balbahadur's shack. The swampy lake was filled with resident species of wild duck, paddy birds, cranes, etc.; whilst all day long herds of semi-domesticated buffaloes grazed in the swamp grass tended by Gurkhali herdsmen. Balbahadur soon entered into an agreement with me and in no time produced an Assamese tracker named Kuttru, and another non-descript assistant. Kuttru, I may say, was an excellent tracker, who never lost a trail, and that, in spite of the fact that the tracks we were following were crossed and confused continually by those of herd elephants. Up and down the bamboo covered hills, through Taraban swamps, Ringal cane thickets, lantana, it was the same to him. He would lead you right up to an elephant and say '*Maro*'. I once asked him if he ever felt afraid, and his reply was most amusing and to the point. I give it verbatim. 'You have come to shoot elephants not I, so long as you don't run, I won't, if you do, I'll go home. The last Babu-Sahab who came after elephants ran away after wounding an elephant, and we were nearly all killed. If it comes to running, rest assured I can run and climb trees much faster than you, and in any case my business is finished when I take you up to the elephant'. When not tracking, his chief amusement was to wade into the swamp, in pouring rain and spear fish. He caught an enormous number of a sort of mudfish, which he carefully dried for future consumption. I once tried a couple fried and they were very tasty, so that he had to

provide a couple for my breakfast whenever we were not out tracking.

Balbahadur on the other hand was a most taciturn individual, seldom spoke unless directly addressed, was slightly deaf and absolutely fearless. He never backed a step when facing elephants and I veritably believe would rather have been killed than lose *Izat* by showing fear. His chief relaxation I may say was drinking large pegs of my whiskey, neat. Every performance being followed by frightful grimaces and the explanation that Whiskey kept fever out of his stomach. He had a head, and could down half a bottle without showing any effects. On one trail we lived on whiskey and tea for nearly two days, most of the time in pouring rain; and were never really dry. His prescription must be right as I never got fever, to which I am rather prone in the jungles.

A couple of blank days were spent in trying to pick up the Rogue, which however had disappeared after demolishing a couple of cooly huts at a nearby tea-garden, following up this exploit by chasing two Nepali sawyers who were cutting timber in the forest.

He then wound up by eating all their provisions, including some rice tied in a red cloth, cloth and all. Confirmation of this feat was forthcoming when his droppings were found. These were plentifully garnished with scraps of red rag.

During the course of my wanderings on this shoot, I came across a 'Mithun', a type of hybrid Gaur found in Assam. He gave an easy shot as he fed in some short grass on the opposite side of a ravine about 80 to 100 yards away. I could have bagged him easily, but having no license for Game in this area, very reluctantly had to let him go, as to-date I have never bagged a 'Mithun'. I also saw a Red Serow, a rare animal, but this peculiar brute raced downhill into a dense Ringal cane thicket. Several times we came across pig, sambhur, kallij pheasant, *jungli moorgi*, and once one misty morning walked into a tiger on his kill—a village cow. I should have shot him, as actually he was on village land, but not knowing this at the time I was not chancing the forfeiture of my elephant license by being accused of poaching. Both Balbahadur and Kuttru urged me to shoot this tiger, though we were all on foot within a few yards; and they had the pleasure of saying 'I told you so'; when we heard from the Ranger, that this beast was a nuisance having killed several buffaloes engaged in timber dragging and that I should have shot him as permission had been obtained for his destruction.

Eventually during the course of our wanderings, we came across a village of Garo tribesmen, high up in the hills. These were not the real wild type, rather semi-civilised fellows, and they gave us *khubbar* of two solitary elephants in the jungles. They were quite willing to work for me and wanted us to visit their village. This suited my purpose admirably, as it solved the problem of transport; I was also tired of Chakardah and its everlasting swamp. To settle the business I tramped straight on to their village just

as I was, and we celebrated our arrival by getting our hosts to throw a feast of roast pig and rice beer. Of course I had to pay for these festivities, which waxed loud and long; and had the satisfaction of dining alone on tea and tinned sausages in isolated splendour in the Forest Guard's beat hut. Such are the disadvantages of keeping up one's prestige. My shikaris enjoyed themselves, but had the sense to send out a party of men early next morning to bring in my kit, servant, etc. This party returned with everything by 11 a.m. Good marching as the total distance involved was 14 miles up hill and down dale through heavy forest.

The next afternoon we picked up the tracks of an enormous solitary elephant, the print of whose forefeet gave a circumference measurement of 65", or a computed height of 10'-10". The tracks were about a day old and we followed them till nightfall, through the most impossible places, up and downhill almost vertically, in regular giant staircases of elephant tracks; through Tara-ban swamps, up to our waists in stinking mud and water, through dense rattan-cane thickets that dug millions of vicious barbs into one and tore clothes and skin to shreds. Periodically we stopped to scrape off leeches, as fat as my little finger, with the gorge that they had had of our blood. I invariably burnt these dreadful pests. This devil-ridden elephant never seemed to stop, his tracks showed that he was moving fast. That night we all went to sleep on the banks of a brawling tumbling stream that looked beautifully fishable. No fires were allowed and we huddled together cold and hungry. Towards midnight we heard the trumpeting of a herd of wild elephants, away to the south-west; later a single elephant rushed madly up the valley we were sleeping in, most probably after catching our wind. What with mosquitoes, cold, hunger and excitement, I hardly slept a wink. Towards morning I dozed fitfully, and woke to find that Balbahadur had made some tea; and that Kuttru and Bangté, the Garo Headman, had gone on ahead tracking.

A hasty wash, followed by some whiskey-tea and we pushed on; some hours later we contacted with Kuttru, and he was a case of 'nerves'. It appeared that he and Bangté, whilst following the elephant, had been most viciously charged. I had my doubts, but these were allayed when we came to the scene of action. We could see where the elephant had circled back to a bamboo clump, from where he had charged the two men from not more than 15 yards. The tracks of his charge were deeply imprinted on the soft soil as his direction was downhill.

He had then crossed a swamp and ascended the opposite hill which was covered with dense bamboo thickets. Kuttru with a most ridiculous looking *dah* in his hand took up the tracks, but as these were now so clear I took the lead. The wind was wrong and the advance was made with great caution. I may state that I smoked continually, this being the easiest way of testing the breeze in these dense damp forests, where sand, a wet finger, or fluff are alike useless. The elephant, as we found later, had crossed the ridge and circled back along the top of a spur running



Kamrup, Assam. Rogue Elephant—9' 7": Tusks, R. 3' 11", L. 3' 9";
Circum. 1' 1"; Weight 34 lb.



Kamrup, Assam. Rogue *Makhna*, 10' 2".

west. We must actually have passed him within 60 yards, but much below his line of scent or smell. On topping the ridge, I was following up the tracks, when Kuttru, who has the eyes of a hawk, spotted the elephant 40 yards away behind a dense bamboo clump, on our right. The beast was perfectly motionless. To get a shot at this distance was impossible, there were far too many interlacing bamboos and besides the elephant's quarters and tail were towards us. He looked a monster, reddish brown in colour, quite unlike the usual black tame ones. I got *pucca* stag fever, my hands shaking with excitement: Kuttru looked at me in a very superior and pitying way and I mentally promised to box his ears when the show was over. Balbahadur quite frankly suggested that I sit down and recover my nerves, whilst he had a crack at the elephant. Recovering myself I got them behind a bamboo clump, whilst the Garos made themselves scarce. I then crept up behind the bamboo clump, till only this separated the elephant from me. He seemed very suspicious and kept swinging his head and trunk from side to side apparently to catch the wind. I then saw for the first time that he was a *makhna*, or tuskless male. I had no qualms about shooting him, owing to the conditions of my license. How long I waited I don't know, probably not more than a minute. I then discovered that Kuttru had crept up to me without a sound; he suggested in a whisper that I step to the right of the clump and as the elephant swung round to face me, to let him have it. I did so and stood up, without a sound the elephant swung towards me and I let drive midway between his ear and temple. With a great scream he came round but fell onto his knees, and whilst he was struggling to rise, I rushed up and fired just above the bump between his eyes. He heeled clean over and I had bagged my first elephant. Besides the natural exultation I felt, I must admit to pangs of regret at having destroyed so magnificent a beast. Measured between uprights, as he lay, from the top of his shoulder to the sole of his forefoot, he taped 10' 2"; the circumference of his right forefoot in death was 62". In my opinion he stood about 10' 5" in height (vertical) at the shoulders; and this measurement was confirmed by his rubbing marks on various trees. His tushes were both broken off short at the gum, but for a *makhna* were still exceptionally long and thick. When his carcass was seen by the Mahouts engaged in *Mela-Shikar*, they said that he was the biggest elephant seen in these parts for years; and was known as a notorious crop raider, who occasionally chased people about, but he was not a man-killer; and had been living solitary for many years. They estimated his age as between 80 and 100! The ears were very ragged and showed a great amount of turnover. The bulk of the body was enormous. In a couple of days no one could go within a mile of the place due to the terrible stench.

The next few days were devoted to observing wild elephants and their ways, whilst scouts were sent out to hunt up the recent tracks of the other solitary elephant,—the Rogue. One morning

as we were on our way to a salt lick, situated in a narrow valley where we hoped to see elephant and with luck Mithun, we heard a herd approaching in the opposite direction. We rushed a little way uphill and sat tight and were soon rewarded by seeing 8 cows and 3 calves walking along in Indian file, not more than 50 yards distant. The moment the leading cow crossed our tracks, she stooped dead and tested the wind, in no time her trunk swung in our direction and every other elephant followed suit including the tiny calves. Right about wheel, canter, seemed to be next orders and they shuffled away uphill as fast as they could go with a tremendous crashing. The whole movement was executed as if on a parade ground and we all had a good laugh at the gravity of the little fellows. Another afternoon, Kuttru, the valiant, led me right up to two young tuskers, that had temporarily left a herd. The larger of the two was about 8' 6" in height with light tusks, Khuttru called him a *Khuru-Dantal* the other was not above 6'-0", with tiny tusks just protruding from his jaw. The blood-thirsty tracker wanted me to shoot both. I got to within 5 yards of them and climbed a tree to get some snapshots. It was delightful to see how they caressed each other with their trunks and how the smaller copied every movement of his elder brother, even to rubbing his forehead on the same tree.

Eventually Balbahadur, who originally had lagged behind, came blundering on the scene, upon which the elephants rushed off downhill. They just bounded down like dirty black rubber balls, the smaller of the two coming an awful cropper over a log in the grass. He looked such a clown with his head on the ground and his hind legs stubbing the grass, that I sat and roared, sending off the herd that was in the valley crashing away at a great pace.

One day when following up a solitary *ganesh* or single-tusked elephant we ran slap bang into a herd, which he had suddenly joined up with. The place was a sort of natural amphitheatre, a flat, tree covered hollow, surrounded by high bamboo covered hills, with steep sides. The herd was right around us, split up into what appeared to be family groups, all resting under the shade of the trees. The two nearest groups were all cows and calves, then a solitary *makhna*, not however anything as large as the one I had shot. Not far from him and close to a group, headed by an immense old cow, stood the '*ganesh*'. Unlucky brute for me, had I caught him up when solitary, I was justified in shooting him, as he was a known crop-raider; but within the shelter of a herd he was in sanctuary and inviolate. His one tusk was every bit of 65 lbs. if not more, as thick as my thigh and projecting 4 feet from his jaw, stained the colour of nicotine, with the point rounded and blunt. Out of his head, it would have gone to 6'-0" in length. Balbahadur, as usual, got us all into trouble. Close to where he crouched, about 15 yards to my left, was a pinky-grey calf; the little chap could not have been more than a few weeks old, he was trying to pull down a creeper with his tiny trunk. Balbahadur spotted this progidy and crept to within a

yard of it. He had a shawl in his hands and seemed to be trying to tie its hind legs together, in an effort to capture it. At this moment the old cow spotted him and with an unearthly scream charged headlong at him. Pandemonium is the wrong word to describe the next few moments. The entire herd consisting of some 40 animals, rushed over everything screaming, bamboo clumps were scattered, the individual stems cracking like rifle shots. The whole place was like an inferno, only, instead of comparatively benign devils, there were dozens of infuriated and frightened elephants. I hardly know what happened to the rest, I saw Kuttru and the Garo shin up the hillside and Balbahadur dodge behind a bamboo clump. I ran across to him and was nearly run over by a couple of runaway cows. The *mukhna* was screaming just the other side of our clump, so we faded silently away up the opposite hillside to Kuttru and the rest. The *ganesh* had disappeared, and by the time we had rejoined forces, the herd who were still in possession of the arena, started filing away. We counted 33 animals, but others had already made good their escape. Later on we heard from the Mahouts that they had captured 2 young elephants from that herd a few days previously, one of them being a young tusker whose dam was the old and vicious cow. She and the *makhna* had then turned on the *koonkees*, or catching elephants, and severely pummeled a valuable female, whilst the rest showed such a pugnacious disposition, that they had decided to leave this herd alone. One of the Mahaldars offered me Rs. 500 to catch the calf we had seen, as it was supposed to be an albino and very valuable. He also offered to lend two *koonkees* and his Mahouts, *phandees* or noosers, and pay all expenses. His Mahouts were however a miserable opium eating lot; and he a great sharper, so that nothing came of his proposal. On the other hand, some Gurkha Mahouts and *phandees* in the service of another Mahaldar, were a desperate gang. I did one hunt with this lot, as a paying guest; and they did show sport. Having closed up to a herd, away they rushed in, cutting out two half-grown young with their *koonkees*. There were two of us in this particular case, and we followed that calf through swamp and bamboo, along the valley. My companion *koonkee* did the actual noosing, as she was a leggy and fast female. My mount being a much slower *makhna* who however came up in time to help in the final roping and tie-up. I finished that little jaunt more dead than alive with not a square inch of skin on the inside of my legs. You must know that these *koonkees* are not fitted with pads, only ropes, and one has to hang on with hands, teeth and toes; but falls to rival those experienced in pig-sticking are frequent. I paid the promised 'bakshish' to my Mahout and was thankful to get off his elephant alive, and with no bones broken; any more sport of this description would have meant a lengthy stay in hospital for me. I may add that my part in the hunt was to beat my mount with a thick stick over the rumps, to make him move faster, as I had displaced the *charkatta*; only two being carried per *koonkee* in this Mela-Shikar. You may guess that

I did nothing of the sort being too busy hanging on for dear life. Whilst our pair of *koonkees* were successful, another lot had a fearful time, one of the *phandees* being swept off his mount by a trailing creeper, his *koonkee* was useless for further catching; the other had to cut loose the calf they had noosed, as he was too big for their mount—a very light female, and besides dragging her along, very nearly choked himself in the noose as a result. Altogether a very successful hunt; and the Mahouts considered me very lucky and wanted to take me out again, but one experience sufficed. However all good things end, and I returned to Chakardah on my way home. On my very last night in the jungles, the Rogue, who had protected his hide so well that we never once caught a glimpse of him in spite of continual hunting, staged a grand *Finale*; which ended in his enriching me with his beautiful symmetrical tusks. I had finished packing my kit and rifles, and after a hot bath, the first for many days, had turned in amidst the unwonted luxury of warm blankets, clean sheets, and silk pyjamas. I was asleep almost before my head touched the pillow, and was in the middle of a vivid dream, wherein a monster elephant with long curly tusks, absolutely impervious to all bullets was chasing me; when a fearful scream from an elephant made me wide awake. Balbahadur rushed to my hut from his own, and shouted elephant; meanwhile the screaming and noise went on, added to which were loud shouts and wails from the village where the Mahaldars had picketed their *koonkees*. I developed some latent energy that I consider is unexampled. Within half a minute I was rushing to the scene of tumult in my pyjamas and slippers, with the heavy rifle in my hands and the last 7 cartridges I possessed. To get there I had to wade through an arm of the swamp and cross some 400 yards of flooded paddy fields. In the process, I lost my slippers, lost my bearings and landed up to the armpits in a bog. Some of the Mahouts with a lantern, rapidly came on the scene and extricated me. Whilst rushing me along to their lines they gasped out their story. This summed up was to the effect that during the day a solitary bull *dantal* or tusker had been seen following one of their *koonkees*—a *makhna*. This latter had been showing signs of ‘musth’ and as a result had been securely chained up that evening. Towards nightfall he started showing signs of great restlessness. About midnight, an elephant trumpeted in the jungle nearby, to which the *makhna* answered and about a quarter of an hour later, when they were all asleep, the wild tusker crossing through the outlying part of the village, came into their lines. The first intimation they had of his presence was when he attacked the tame *makhna*. The screams of the latter awoke them in a fright, when they noticed that he was bleeding from a wound near the shoulder, inflicted by the Rogue. In spite of their shouts and the waving of lighted fire-brands, the Rogue, who had backed away at their first approach, again charged the unfortunate *makhna*, driving one of his tusks into the base of the latter’s trunk. Eventually the tusker knocked down the *makhna*, not a difficult task as the

latter's fore-legs were shackled by chains. By this time the entire village was in the utmost confusion, men, women, and children, ran about screaming that their last day had come. The *makhna* continued his terrible screams as the wild tusker pummelled and kicked him. The moment I arrived was very nearly my last; in pitch blackness, under a steady drizzle of rain, a horde of frantic men, women and children laid hold of me. At this moment a Mahout came running up with a firebrand and the tusker who previously had not been visible under the shade of the trees, stepped forward into the circle of light about 50 yards away. In the mad stampede that immediately ensued, I was swept into a ditch by the solid wave of humanity that rushed back; with fists, legs and gun-stock I had to fight my way clear otherwise I would have been suffocated. As this ditch was practically an offal pit for a nearby cattle pen, my odoriferous condition can be better imagined than described. Eventually, with myself standing guard over the tusker, Balbahadur, my orderly and the Mahouts, drove the panic-stricken villagers into the comparative safety of the cattle-pen, thereby clearing the field for action.

Supported by Balbahadur flashing the electric torch onto the tusker's head and carrying my second rifle, we started the attack. The tusker fronted us and came on; when he was about 10 yards away I let drive into the spot where I judged the bump of his forehead was placed. He swayed to the shot and recoiled backwards, then recovering himself rushed us without a sound; Balbahadur dragged me back into a Lantana bush. As the elephant passed I fired for his ear, but hit him in the centre of his neck, as by this time I was firing in the dark; the blasted torch having dropped in the confusion. He screamed loudly to the shot, and appeared to be half paralysed, as he started moving in a blind sort of a way, very slowly, uphill. I ran alongside in the thick Lantana, and fired three times at his head, trying to brain him, but in the dark could not get the correct spot. Fumbling in my pocket I discovered that I had only one cartridge left, one having dropped out in the confusion at the ditch. The elephant was now standing in a dense clump of Lantana, so I ran right up to him and fired into his ear from about three yards. He dropped like a stone without a sound, just missing crushing me; as he had been on higher ground than myself. I literally escaped by inches. As it was I fled after taking the shot, as by this time my nerves were in shreds. The first to come up to me with a smoke was Balbahadur, who had been close behind; and I stopped to recover as much of my courage as I could. The rest of the crowd soon followed, and we jauntily announced the death of the Rogue. A 'stripped to the skin bath' followed at the elephant lines, and I put on some clean clothes, but was much too excited to sleep immediately. We sat up with the Mahouts gossiping and yarning, drinking copiously of tea laced with whiskey. They were fullsome with their praises, stating that they had never met any *Saheb* before, brave enough to shoot a *goonda-dantal* by night. I did not edify them, by saying that in actual truth, funk had dried up my throat to such an

extent that I was left with a raging and apparently insatiable thirst.

Next morning after cutting out the tusks, I decided that as the carcase was within a hundred yards of the nearest huts, it was absolutely necessary to bury it, to prevent an epidemic when it rotted. The villagers absolutely refused to do this, in spite of my offering whatever wages they demanded. They said that it was too much labour and in any case the carcase would soon rot. Luckily the Forest Ranger came that morning, and he soon impressed some Garos and Cacharees who did the job. It was terribly tedious; whilst the coolies dug an immense pit, I had to cut up the carcase with Balbahadur. We were at it till 4 p.m. The above incident is typical of the attitude of Assamese Mikiri villagers. They just will not do any manual labour unconnected with their daily lives, whether paid for or not. To the men who had sweated all day, I paid the agreed amount of Rs. 25/- plus as much country-grog as they wanted, and they were very contented. They fully deserved every pice of that money. Late that evening the Ranger boated me back across the swamp up to the main road, where I soon caught a bus back to Gauhati.

I will not weary the reader with instructions how and where to shoot wild elephants; suffice to say that by Assam Government ruling the rifle must be a H. V. one of not less than 400 bore. He will learn everything there is to know from Sanderson's book. In Assam he must be prepared to travel light and foot-slog for miles. Carriage is very difficult to obtain and the use of tame elephants, unless he has local friends impossible. Tea laced with whiskey, following 5 grains of some quinine compound, twice a day is the best fever-preventive. Shooting rules in Assam are very strict, and Fees and Royalties ditto. This is excellent as, at least in the Forest Reserves, it prevents indiscriminate slaughter, as was the case in years gone by. I have no actual experience, bar Elephant shooting, of the Forest Reserves; an omission that I intend to rectify no sooner funds permit. I should think that in some of these Reserves the shooting, though terribly difficult, will compare with anything the rest of India can produce.

Measurements. Mākhnā Bull Elephant. Vertical height 10'-2" but actually estimated at 10'-5"; Circumference of right forefoot, in death, 62". Tushes 226 tolas the pair. Rogue Tusker: vertical height, 9'-7", circumference of right forefoot, in death, 4'-8½" Tusks, *Right.* 3'-11" × 13" girth at the gum; } Weight 34 lbs.
Left. 3'-9" × 13" girth at the gum; } the pair.

I forgot to add that in cutting out the right tusk we found a Martini-Henry slug embedded in the skull. This had traversed the tusk and entered into the bone of the skull, splitting the tusk for about 18" of its length inside the socket. The pulp of the tusk was in a diseased condition, smelling horribly; and in my opinion was probably the sole reason why this animal turned into a Rogue. He must have been wounded by either a crop watcher or shikari, and subsequently must have been in agony for the rest of his life. The tusks are a beautifully matched pair, with sharp pointed ends.

NOTES ON INDIAN EUPHORBIACEAE: CROTON
BONPLANDIANUM (C. SPARSIFLORUM) AND
EUPHORBIA PERBRACTEATA.

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Thanks to the friendly interest of several botanists who have furnished material and data I have been able to give attention to certain Indian *Euphorbiaceæ*, native or introduced, the taxonomic status of which was thought to be questionable or unsatisfactory. Two of these plants, both weeds of cultivation, are the subject of this contribution.

(A) CROTON BONPLANDIANUM¹

This is the introduced *Euphorbiacea* known to Indian floristic work as *Croton sparsiflorus*. Its synonymy is fairly extended although by no means one of the largest in the records of this badly known genus. So far I know it, it stands as follows:

CROTON BONPLANDIANUM Baill. in Adans., iv, 339 (August 1864); *C. Bonplandianus* [sphalm.] Mueller-Arg. in DC. Prodr. XV, ii, 661 (1866) and in Mart., Fl. Bras. XI, ii, 116 (1873) [sub *C. Persicaria*].

C. pauperulum [*C. pauperulus* sphalm.] Muell.-Arg. in Flora, XLVII, 485 (October 1864), DC. Prodr., XV, ii: 671 (1866), Mart. Fl. Bras., XI, ii, 242 (1873).

C. sparsiflorum [*C. sparsiflorus* sphalm] Morong [sphalm. auct. Indic. 'Morung'] in Ann. N.Y. Acad. Sc., VII, 22 (1892); Brühl in Jour. Proc. As. Soc. Bengal, IV, 604, 635; 642, 649, 652 (1908); Haines, Bot. Bihar, Orissa,

¹ *Croton* was used by Linnaeus [Sp. Pl. II, 1004 (1753)] as neuter generic name and by Mueller-Arg. [in DC. Prodr. XV, ii, 512 *et seq.* (1866)] as masculine, most modern authors following Mueller's preference. Article 72 (1) of the International Rules of Nomenclature, 1935, statutes that a Greek or Latin word adopted as a generic name retains the gender assigned to it by its author which is known to have for result that the same Greek or Latin name is masculine, feminine or neuter according to the letter of the original publication. A modification of Art. 72 (1) was proposed [cf. Syn. Propos. Nomencl., VI, Inter. Congr. 58 (1935)] to the effect that generic names must follow their classical gender. This proposal, at first voted upon favourably [cf. Proc., VI, Inter. Congr., 356 (1936)] was eventually accepted only as a *recommendation* (cf. o.c., 357), which leaves the matter practically unchanged under Art. 72 (1). I regret that under the Rules the specific names of the majority of the synonyms of *C. Bonplandianum* must here be changed to the neuter gender, because this further complicates the synonymy. *Croton Bonplandianum* was published as neuter by its author, Baillon.

II, 105 (1921); Gamble, Fl. Pres. Madras, II, 1316 (1925); Mayuranathan, Fl. Plts. Madras vicin., 267. pl. 31 fig. d (1929); Joshi in Curr. Sc. II, 344 (1934).

C. rivinoides Chodat in Bull. Hb. Boiss., sér. ii, I, 395 (1901).

The centre of distribution of this most vigorous weed is Paraguay, in South America. It occurs as far north as the temperate foothills of the Andes of Bolivia and is locally abundant in the warmer Andean and Pampean states of the Republic of Argentine. It is not reported from Uruguay by Herter [Estud. Bot. Reg. Urug. 79 (1930)], although it certainly occurs there. I have seen no specimens from the Rio Grande do Sul and other southern Brazilian states, where it can not be wanting. Various collectors record it as a weed of waste lands, banks of rivers and thoroughfares, several times gathered in the street of Asunción, Paraguay.

The history of *C. Bonplandianum*, briefly told, is the following: Aimé Bonpland collected it, apparently for the first time, at the beginning of the last century in the 'province of Corrientes', i.e. in an unreported locality near the common boundaries of Argentine, Paraguay and Brazil. It was almost simultaneously described by Baillon and by Mueller of Aargau, the latter having received through J. D. Hooker a specimen collected by Tweedie in the Andean region of Argentine, near Tucumán. For reasons unexplained, Mueller twice reduced *C. Bonplandianum* to *C. Persicaria*, which is a very different species. Thomas Morong brought it back from Paraguay, where he had been collecting between 1888 and 1890 and named it as new with the binomial under which it has since then been known to the majority of taxonomists. Chodat, eventually, introduced in the record a third synonym which has remained practically unused.

Compiling from the literature I find the following main records for *C. Bonplandianum* (*C. sparsiflorum*) in India: 1897, Chandur, Akhārera, Brahmanbaria; 1898, Chittagong; 1901, Sibpur; 1907, Tippera; 1917-1921, various localities in Orissa; 1922, Madras and along the coast of Coromandel south to Tinnevely; 1929, the greatest part of the districts of Madura and Tinnevely 1931, Benares; 1932, Sylhet and Gauhatti. It is a foregone conclusion that *C. Bonplandianum* is scheduled to overrun in time most of India and, probably, a wide area of tropical Asia and Africa.

According to Brühl (o. c., 603) it was Prain who first identified this weed as *C. sparsiflorum*, Prain's specimens being probably still preserved under this binomial in the herbarium of the Botanic Garden at Sibpur. It should be interesting to verify the notes on this material, ascertaining how Prain, who did not record the species in 1903 together with the *Croton* from Bengal, came to learn of Morong's binomial. It stands distinctly to Prain's credit to have recognized the species with fair accuracy, considering how involved and unsatisfactory is the classification of *Croton* now current.

The illustration supplied by Mayuranathan is good and the account of Brühl is excellent despite the fact that in this account

are found minor errors of citations and one omission, occurring in the quotation of Morong's original diagnosis. Having seen an Indian specimen of *C. sparsiflorum* in the herbarium of the Royal Botanic Gardens at Kew (Haines 4165, 'naturalized near Cuttack 1917') and types or isotypes of *C. Bonplandianum*, *C. pauperulum* and *C. rivinoides* in various European and American herbaria I am satisfied that the introduced weed recorded by Indian botanists and the South American *Croton* are precisely the same species. Individual specimens vary much in size, depauperate forms being scarcely 8-12 inches tall with narrow, acuminate, dentate-serrate leaves. Specimens which I have grown in the hothouse from seed received from Dr. F. Schade, of Villarica, Paraguay brought forth leaves up to 8 by 4 inches in size and showed great vigour, ultimately measuring fully 3 ft. in height.

In Brühl's account it is suggested that had Hooker known *C. Bonplandianum* (*C. sparsiflorum*) he would have listed it near *C. Wallichii*. So far as it applies to the habit and the general aspect of preserved specimens Brühl's note is acceptable, but the true affinities of *C. Bonplandianum* are not with *C. Wallichii* and its group. In the present state of classification it is unadvisable to make final statements on the subject of the affinities and sectional divisions of *Croton*, both Indian and foreign. At this time it seems correct, however, to refer *C. Bonplandianum* to sect. *Astraea* (Kl.) Baill., as typified by *C. lobatum*, this being another weed of cultivation that also probably occurs in India.

(B) EUPHORBIA PERBRACTEATA

This weed is of special interest to students of Indian phytogeography because it might prove to extend to the Deccan the range of forms such as *E. striatella* and *E. teheranica* that so far are believed to be restricted to the Iranian tableland. *Euphorbia pauciradiata* Blatt., which is known to me only from description, is possibly a third species of this group.

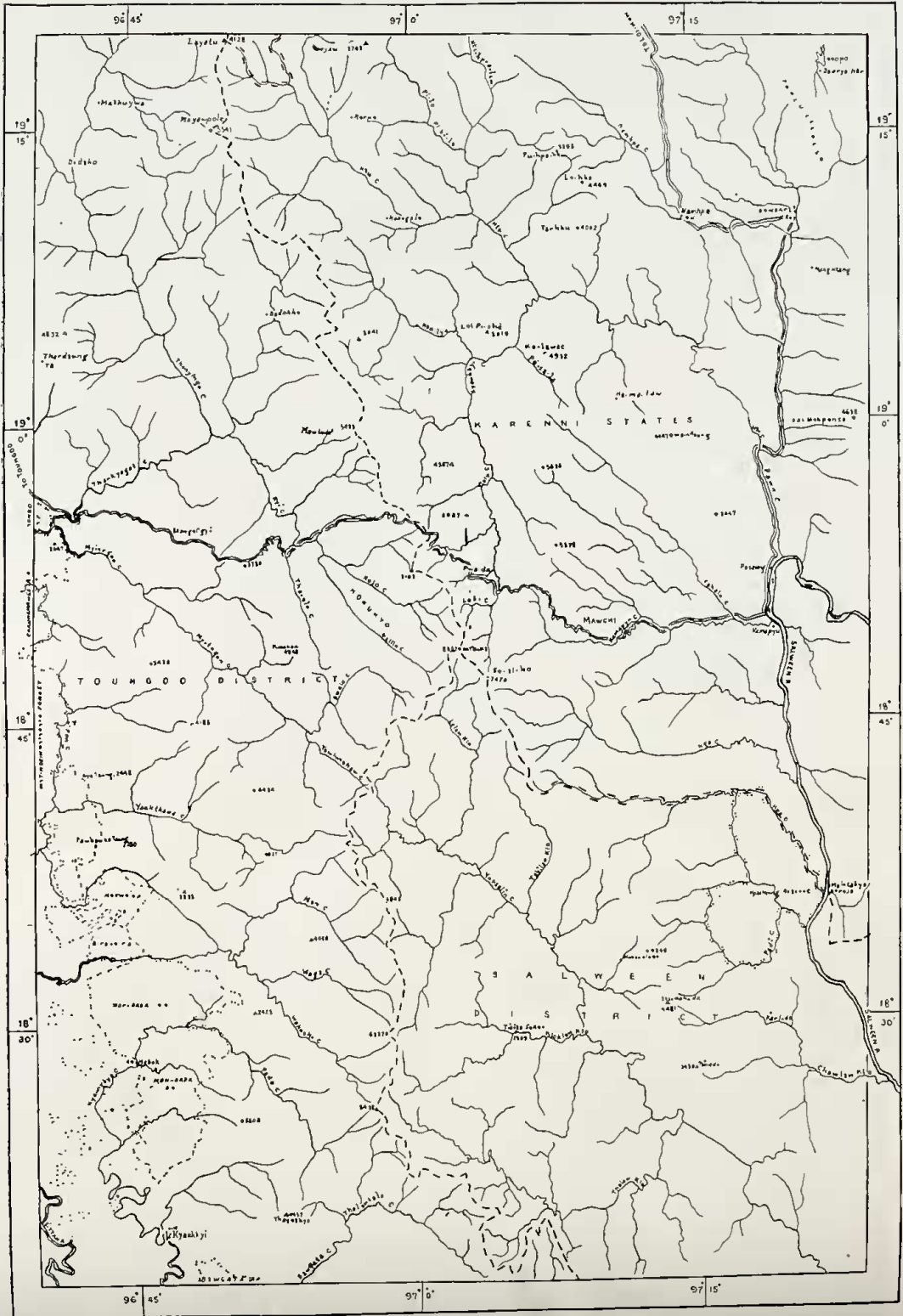
In describing *E. perbracteata* [*Bull. Bot. Gard. Kew*, xxvii, 238 (1914)] Gage warned that it was being confused with *E. dracunculoides* and *E. Rothiana*. Despite Gage's note the confusion persisted and Sedgwick took notice of it, writing an elaborate and in some respects very informative paper [*J.B.N.H.S.*, xxvi, 599 (1919)] to show that different plants were included under *E. Rothiana*. Unfortunately, Sedgwick ignoring Gage's species, identified *E. perbracteata* with *E. laeta* Heyne [in Roth, *Nov. Pl. Sp.*, 230 (1821)], an invalid binomial on account of the previous publication of *E. laeta* Ait. [*Hort. Kew*, ed. i, II, 141 (1789)], which is usually accepted as a synonym of *E. dendroides* L. Haines taking up *E. perbracteata* [*Bot. Bihar and Orissa*, ii, 145 (1921)] neglected in his turn Sedgwick's contribution. The outcome of these imperfect listings is that *E. perbracteata* is scarcely better known now than it was before 1914, a peculiar state of affairs considering that this spurge is one of the easiest to identify and has been twice described at length within five years.

Sedgwick states it *always* has 3 rays at the umbellaster. Gage describes it as carrying 2-4 rays. These notes are not contradictory; Gage described few specimens only, and knowing that in *Euphorbia* the number of rays is variable figured out an average. Sedgwick wrote from direct personal observation. All the specimens which I have seen had 3 rays. In addition to this unusual and peculiar number of rays, *E. perbracteata* may be further characterized as follows; (1) the glands of the cyathium are neither horned nor smooth at the margin, but coarsely and irregularly toothed; (2) the bracts surrounding the cyathia are conspicuously veined, ribbed and often connate at the base; (3) the specimens in herbarium have a pale green colour, usually fewer leaves than *E. dracunculoides* and *E. Rothiana* and a manifestly annual root; (4) the seed appears to be intermediate between that of *E. dracunculoides* and *E. Rothiana*: it is more or less mottled and the testa is very nearly smooth. The seed of *E. dracunculoides* is roughened from an irregularly distributed thick whitish aril and is lacunose at the testa. The seed of *E. Rothiana* is grayish and smooth throughout.

Gage gives as range the United and Central Provinces; Sedgwick restricts the species to the region of Bombay and the Carnatic, stating, however, that its range is probably wider; Haines reports having collected it only in cultivated fields as a seemingly introduced weed, but cites it from Behar on the faith of Kurz. I believe at this time that the region of Bombay is the locality of India where this spurge is actually endemic because, as it has been stated, its affinities appear to lie in the direction of Persian endemics. More extensive collections are needed, however, to define the range and the affinities of this peculiar species. While Indian *Euphorbia* occurs in South-Western China, there in part native (e.g., *E. Rothiana*, *E. prolifera*, *E. Royleana*) and in part introduced as it seems (e.g., *E. dracunculoides*), I have never seen *E. perbracteata* collected outside of India. This limited distribution is peculiar in a weed of cultivation. I suspected at first that the species has definite edaphic preferences and a strictly winter-cycle of growth. This did not prove to be the case because seeds collected near Poona in February and sown in America in May, in the hothouse, germinated in less than one week, producing extremely vital seedlings, even sturdier than those of *E. dracunculoides* and *E. Rothiana*. Under the circumstances it is surprising to learn that *E. perbracteata* is unknown in the great majority of the herbaria: I stand under deep obligation to Prof. S. S. Kumar, Economic Botanist to the Government, Poona, who collaborated to my work with specimens and viable seeds.

To conclude these notes it may be pointed out that Sedgwick is much misinformed in listing *E. Rothiana* Spr., of Sprengel, Syst., iii, 796 (1826) and Boissier in DC. Prodr. XV, ii, 156 (1862), as a synonym of *E. perbracteata* (*E. laeta* of Sedgwick, not of Aiton nor Heyne). I have seen numerous authentic specimens of *E. Rothiana* and *E. oreophila*, some bearing Boissier's own identification, not a single one of which is in any way representative of *E. perbracteata*.

N
 MAP OF COUNTRY
 ROUND NATTAUNG KARENNI STATES
 SCALE 1" = 4 MILES
 S



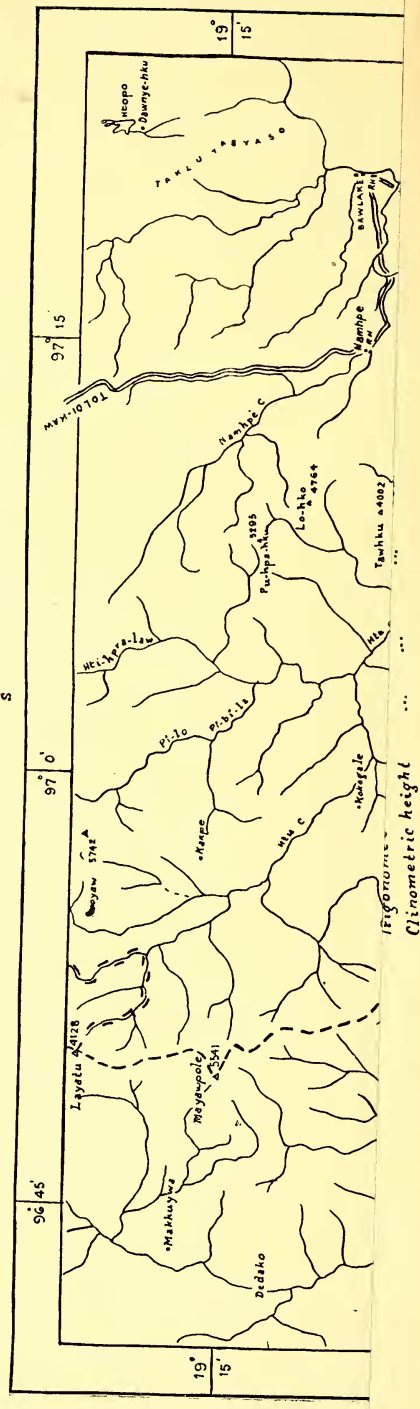
REFERENCES.

- District boundary
- Reserve boundary with name of reserve
- Chaung (Stream)
- Metalled road
- Trigonometrical Station with height in feet
- Trigonometrical Station

JOURN. BOMBAY NAT. HIST. SOC.

MAP OF COUNTRY ROUND NATTAUNG, KARENNI STATES

SCALE 1" = 4 MILES



Figonome
Clinometric height

NOTES ON THE BIRDS OF NATTAUNG, KARENNI.

BY

MESSRS. H. C. SMITH, M.B.O.U., P. F. GARTHWAITE, AND

B. E. SMYTHIES, Burma Forest Service.

With Systematic Notes by

DR. C. B. TICEHURST, M.A., M.R.C.S., M.B.O.U.

(*With a map*).

Description of the locality.—Nattaung (8,607 feet) is the highest point in Southern Burma on the Sittang-Salween divide. The boundaries of Toungoo District, Thaton District and Karenni meet on the summit (Lat. $18^{\circ} 49'$ North, Long. $19^{\circ} 02'$ East). The annual rainfall is not less than 110 inches, probably considerably more.

Below 5,000 feet shifting cultivation has been so extensive that the whole area consists of secondary growth of various ages and density, with pine, oaks and chestnuts predominating, and virgin forest is confined to a few precipitous gorges unsuitable for cultivation. Above 5,000 feet very little cultivation has been done, and virgin forest covers the area.

In what follows the nomenclature adopted is that used by Champion in 'A preliminary survey of the forest types of India and Burma', *Indian Forest Records*, Volume I, Number 1 (to which a reference is invited). Four climax types and two seral types occur on Nattaung.

1. (Group 1a C2) Eastern tropical evergreen=Evergreen.

This type occupies steep north facing slopes from 5,000 to 8,000 feet, and also occurs in moist pockets and along the streams in the other types. The following is an extract from Champion's description:

'Lofty, dense, evergreen forests 150 feet or more high. . . the canopy is extremely dense. . . epiphytes are numerous. . . ground vegetation in typical cases may be almost absent, elsewhere a carpet of *Strobilanthes* or *Selaginella* and ferns may occur; grasses are absent. . . Erect bamboos are unusual but may occur locally'.

1a (E 9) Southern wet bamboo brakes=Bamboo brake.

This type occurs here and there in the preceding type. 'Bamboo brakes are usually found along streams or on badly drained hollows more or less displacing the tree forest. . . the brakes are often very dense, even if the bamboos grow in clumps'.

2. (Group 7b C₃) Burma Sub-Tropical Hill Forest=Oak forest.

This type is a buffer between the pine forest and the evergreen; it grades into temperate forest (see below) at about 6,000 feet. 'Hill forest of good height and density, the dominant species being mostly evergreen though some large briefly deciduous trees occur. The total canopy density is much less dense than in the tropical evergreen and the large trees rarely stand close together. A shrubby undergrowth is always present and grass is absent. Bamboo may be present or not. The type is characterised by the prevalence of oaks and chestnuts, *Quercus* and *Castanopsis*.'

3. (Group 8 C₂) Assam-Burma Pine Forest=Pine Forest.

This type occurs on south and east facing slopes from 4,500 to 8,000 feet, and covers large areas but is restricted to well drained soil. 'Typically a practically pure association of pine (*Pinus khasya*) but very generally considerably influenced by the annual or periodic fires which take place. Typically no other trees occur in the top canopy, there is practically no underwood, and even shrubs are few, but where moisture conditions are a little more favourable there tends to be an underwood of *Quercus* and other broad-leaved trees. These trees, mostly evergreen species, increase with rising altitude leaving the pine on the warmer, drier ridges and as scattered standards. A grassy soil cover is usual . . . climbers and bamboos are absent'.

3a. (2S/2) Burma subtropical hill savannah=Savannah.

'Grassy downs with scattered clumps or single trees usually pine and oaks'.

This type only occurs as a small area of a few acres on the top of Sosiko.

4. (Group 10b C₂) Assam-Burma wet temperate forest=Temperate forest.

The higher slopes of Nattaung, above about 6,000 feet are covered by this type, with a few outliers of pine forest and evergreen; it is like a dwarf form of oak forest with which it intergrades, and is distinguished by low rounded crowns and short boles, dense bamboo undergrowth (*Arundinaria elegans* Kurz), and alpine elements in the flora.

'Closed evergreen high forest of trees of large girth but medium height, rarely over 80 feet, and usually with large branching crowns festooned with mosses and larger epiphytes . . . At the high elevations a dwarf bamboo undergrowth is very generally developed and may be very dense and uniform over large areas'.

Oak and chestnuts are prevalent; *Rhododendron* occurs in the pine forest outliers over 7,000 feet.

The period spent on Nattaung was from April 8th to April 16th. The locality was reached by lorry from Toungoo in eight hours by the road recently opened by the Mawchi Mines Company. The first camp was at mile 82, ten miles over the Karenni boundary at

about 5,000 feet; from here the lower slopes were worked and a general survey of the locality made. After three days a move was made with cooly transport over a thousand foot ridge to a camp on the Lesi chaung, at about 5,000 feet, from which the summit (8,607 feet) could be reached in about three hours steady climbing. From this camp also Sosiko (7,571 feet) was visited, a climb of seven hours along the eastern watershed of the Kolo chaung. Possible camping sites nearer the main ridge were noted, from which the higher elevations could be worked with greater ease.

The time spent on the mountain was short, and new records were still being obtained on the last day, so that the birds recorded below can only be an incomplete list of the avifauna.

Dr. C. B. Ticehurst, to whom we are greatly indebted, has identified all the skins, and his systematic notes and remarks appear in square brackets at the end of each form.

[The first collection to be made in Karenni was in 1861 when Major Lloyd travelled through the country. His birds were said to have gone to the East India Company's Museum in Calcutta and so far as we know have never been reported on. In 1874 Wardlaw-Ramsay accompanied Major Lloyd on an expedition to the capital of Karenni, Kyai-pho-gyee (Kyebogyi). The expedition entered the Karen Hills from Toungoo on March 5, and after a halt at the capital for a week and a visit to the Shan frontier it started to return on March 30, crossing the Karen Hills 50 miles north of the outward journey and reached Toungoo on April 10. The highest elevation reached on this trip was 6,000 feet. The collection of 400-500 birds of about 150 species is in the British Museum. Ramsay wrote a short account of the trip (*Ibis* 1875, pp. 348-353) but the exact itinerary and a full list of birds was never published. A brother officer of Ramsay spent some weeks in the hills at 3,000-7,000 feet in April and May and gave such birds as he collected to Ramsay and it was no doubt this officer who visited Nattaung which is mentioned as a locality that *Siva strigula* was obtained at in a further paper Ramsay wrote on Burmese birds (*Ibis* 1877, pp. 452-473). Ramsay also sent his collector into Karenni and it was he who first obtained *Sitta magna*. Other new birds were described in short notes by Walden and by Ramsay either from Karenni or the Karen Hills. All the information on Karenni was, of course, incorporated in Oates' *Birds of Burma*.

So far as we know no one since then has done any collecting in Karenni; from December 1877 to April 1888, and from May 1888 to December 1888 Leonardo Fea toured in the Karen Hills near the Karenni boundary; his collecting places being Leito (Leiktho), 30 miles N.-E. of Toungoo; Yado, 30 miles N.-E. of Leito; Taho, 8 miles north of Yado and Chialla 25 miles N.-E. of Taho. His collection contained 467 specimens of 165 species; eight were described as new and five new to Burma. Salvadori gave a full account of it. (*Ann. Mus. Cir. Genoa—Ser. 2, Vol. vii, 1889*). Since then various Englishmen have been in the Karen Hills at Thandaung, but no connected account of the birds has

been written. Farther south Davison collected round Papun and Kyaukhnyat and his birds were reported on by Hume in his 'Birds of Tenasserim' (*Stray Feathers*, Vol. vi, 1878).]

Corvus macrohynchus.

A few birds seen near human habitation between 5,000 and 6,000 feet.

Dendrocitta formosa subsp.

Occasionally heard in the pine forests about 5,000 feet.

Parus major subsp.

Birds seen on several occasions in clearings and in pine forest.

Machlolophus spilonotus subviridis.

3 ♂; 2 ♀.

Frequents oak and pine forests between 5,000 and 7,000 feet. Not seen above this elevation nor in evergreen. Has a pleasant little song. Seen on many occasions in parties working through high undergrowth or in the crowns of low pines; not uncommon.

Aegithaliscus concinnus pulcheilus.

1 ♂; 1 unsexed.

Seen on two occasions in parties working through long grass and secondary growth on a steep hillside near the Mawchi road at 5,500 feet. Another party was seen working rapidly through the crowns of low pines on the edge of cultivation at 5,000 feet.

Suthora poliotis feae.

1 ♀.

Specimen obtained in dwarf bamboo at 8,000 feet on the final slope of Nattaung. One other bird was seen, in regrowth at 4,500 feet, working through the bushes like a *Phylloscopus*. Does not appear to be such a skulker as described in *F. B. I.*

[This single specimen agrees with the description of *feae*. From *ripponi* (Mt. Victoria) it differs in having the white moustache smaller and in having the breast grey, dividing the black throat from the ochraceous underparts. It was described by Salvadori from Taho in the Karen Hills and has not since then been met with. I do not know on what grounds Fort Stedman is given as a locality for this bird in the *Fauna*, ed. ii; there are no specimens in the British Museum and no records from Fort Stedman.]

Psittiparus gularis gularis.

3 ♂; 2 ♀.

Common in shrubs and understorey trees in oak and pine forests between 5,000 feet and 6,000 feet. Not seen in evergreen. A pair of very excited birds observed at close quarters in pine forest on a ridge top at 6,000 feet behaved as if they had a nest close by. Has a harsh chattering note.

Sitta magna magna.

1 ♀.

Shot in pine tree at 5,500 feet. Seen on one other occasion in pine forest. Has a distinctive tri-syllabic call, like the cough of an angry gibbon.

Sitta frontalis corallina.

1 ♂; 1 unsexed.

Fairly common in the oak and pine forests up to about 6,000 feet.

Garrulax moniliger.

Seen in evergreen at about 5,500 feet.

[In the British Museum there are specimens from Karenni and these are intermediate between *moniliger* and *fuscata*.]

Trochalopteron erythrocephalum ramsayi.

4 ♂; 4 ♀.

The common Laughing-Thrush of these forests, being found in all types where undergrowth is heavy. It is particularly partial to bamboo brakes in evergreen. Has a loud call 'wee-ou-wee-whip', the last note higher and louder.

[Mr. Deignan (*Proc. Biol. Soc. Washington*, Vol. LI, pp. 87-92, 1938) in dealing with the southern group of the Red-headed Laughing-Thrushes unites *ramsayi* with *melanostigma* on the grounds that the species is very variable, that the characters of *ramsayi* are not constant and that *ramsayi* has no geographical range. He further states that it would seem that Ogilvie-Grant selected from the series those that suited his purpose, i.e., fitted with his description of *ramsayi*. In the British Museum there are six or eight specimens from Karenni, Karen Hills, Byingyi Mt. in Loi Long, Pine Forest of Salween (which means Kyaukhnyat district) and Yengyi Palaung in Lauksawk; in addition there are available two from Byingyi and eight from Nattaung.

The first thing that strikes one on assembling these is the constancy of the characters of *ramsayi*. Assembled with a series of *melanostigma* from Mt. Muleyit in Tenasserim the two series stand out in marked contrast. Ogilvie-Grant was right in separating them and the supposition that he picked specimens to suit his ideas is insupportable. The second noticeable thing is that all these *ramsayi* come from the very definite area of the Sittang-Salween watershed, with the possible exception of Yengyi Palaung which I have not been able to localize. This area, I may remark, is rather notable for the peculiar and local races it supports—*Leioptila m. castanoptera*, *Leioptila m. saturata*, *Siva cyanouroptera oatesi*, *Sulhora poliotis feae*, *Ixulus humilis clarkii*, *Aethopyga nipalensis karenensis* are some of them—and so there is nothing remarkable in finding a recognizable race of this *Trochalopteron* there. That odd birds resembling *ramsayi* may occur outside its range does not negative the validity of the race when 100% within the range are recognizable.

In this series the upper parts are greyish-olive with just a tinge of rufous on the hind collar; the chestnut of the throat is extended down over the breast and belly in a paler tint between Ochraceous Tawny and Ochraceous Orange (Ridgway XV). Only the flanks are olive and even these are tinged with the same colour.]

Trochalopteron ripponi.

1 ♂; 1 ♀.

The two specimens were obtained in oak and pine forest near the top of a ridge at about 6,000 feet. Not nearly so common as the Red-headed Laughing-Thrush.

[Though said to be the commonest Laughing-Thrush of the Southern Shan States, the occurrence in Karenni is an extension of range farther south.]

Pomatorhinus olivaceus subsp.

Seen and heard frequently in regrowth at about 5,000 feet.

[No form is recorded from Karenni and specimens would be highly desirable; *olivaceus olivaceus* is the form of N. Tenasserim; in Southern Shan States *ripponi* occurs, so the form in Karenni must remain doubtful at present. The relationship, too, of the group to the *schisticeps nuchalis* group requires much further careful collecting; it may be that, though both certainly occur close together, *olivaceus* is the high elevation form. *P. nuchalis* was described from Thayetmyo.]

Pomatorhinus erythrogenys imberbis.

2 ♂.

In pine forest at 6,000 feet. Two were shot out of a party of *Turdus obscurus*. No other records.

Pellorneum ignotum cinnamomeum.

1 ♂.

Shot in grasses in regrowth on top of a pine ridge, near the ground. One of a pair.

Napothera brevicaudata venningi.

1 ♀.

Two birds seen together in the bed of a rocky stream in evergreen (with pines just above) at 5,000 feet. The bird seemed very excited and perched on a low branch making a noise like the two described under No. (225) in the *F. B. I.* No other birds of the kind seen.

[The type of *brevicaudata* came from Muleyit and *venningi* from the 'Southern Shan States'. It was obtained by Craddock on 23 March 1902, and no further locality was specified. Craddock was, however, on Loi Mai in Mongpaw on 7 April 1902 so that *venningi* probably came from near there. On Byingyi in Loi Long State *venningi* occurs, so that its extension now to S.-W. Karenni is an addition to our knowledge.]

Stachyris chrysaea assimilis.

1 ♂; 1 ♀; 1 unsexed.

Fairly common both in regrowth and also in the undergrowth in evergreen, often associated with parties of *Alcippe*.

Stachyridopsis rufifrons rufifrons.

1 ♂.

Obtained in bamboos in oak forest at 6,900 feet. The only bird seen.

Alcippe fratercula fratercula.

4 ♂; 3 ♀; 2 unsexed.

Very common at all elevations above 5,000 feet in all types of forest.

Schoeniparas dubius dubius.

2 ♂; 1 unsexed.

Seen on many occasions in low, dense undergrowth or grasses between 5,000 feet and 7,000 feet in all types of forest. A great skulker. A chattering note 'chit-chit-chit-chit' constantly repeated and also a distinctive call note 'chee-chee-chee-chee-hpwit'. Almost certainly nesting.

[The type came from the outskirts of pine forest above the Salween and this must have been in the Papun-Kyaukhnyat area which may be fixed as the type locality. It has not been recorded from Karenni before and is a useful extension of range, as in the Southern Shan States the form is *intermedius*.]

Pseudominla castaneiceps castaneiceps.

3 ♂; 2 ♀; 1 unsexed.

Found chiefly in temperate forest above 6,000 feet; but occasionally seen in other types. They are confiding little birds and allow a close approach. In habits they are arboreal, climbing about moss- and lichen-covered trees and climbers. Do not ascend up into the crowns of the trees but work the trunks up to about 30 feet. They run up and down, under and round branches rather like Nuthatches do. Quite common.

Heterophasia picaoides cana.

1 ♂.

Obtained at 6,000 feet in oak and pine forest out of a party of about 6 birds. The call is a loud whistle 'Whee-whee-weeou-weou', the last two notes dropping in pitch.

[I have recently been able, through the kindness of Mr. Deignan, to examine a topotype series of *cana* and I must confess I see no difference. In describing *burmanica* I was misled by the description of *cana* and the fact that the only *cana* available to me were paler than Indian birds. The characteristic feature of the form, however, is the shorter tail, not the pallidity of the underparts, as I pointed out in describing *burmanica*.]

Leioptila melanoleuca castanoptera.

2 ♂.

The distinctive mournful call of this bird, 5 notes on a descending scale in a minor key 'whee-ou-hoo-hoo-hoo', was heard all over these forests from 5,500 feet upwards. A low chattering note is also uttered while feeding. This was the only species obtained or seen.

[The type of *castanoptera* was obtained by Fea about 60 miles N.-E. of Toungoo in the Karen Hills. It is a bird of very limited distribution. The northernmost locality is Kalaw and the southernmost is the present one at Nattaung. It is evidently, like some other forms, confined to the hills dividing the Sittang from the Salween valleys.

That there has been some confusion of the forms of this species is hardly to be wondered at; *melanoleuca* was described in 1859 from Mt. Muleyit, N. Tenasserim. In *Stray Feathers*, Vol. vi, p. 294 Hume gave a minute description of this form. He says . . . 'ear-coverts black in some specimens with a slightly browner tinge . . . central tail feathers narrowly, the rest broadly tipped with pure white, . . . back, scapulars, lesser and median coverts a deep, somewhat chocolate brown.' In 1889 Salvadori described *castanoptera* from the Karen Hills which differed from *melanoleuca* chiefly in having the greater coverts and most of the tertials chestnut instead of black. In the *Fauna*, Ed. ii, Stuart Baker called attention to two birds in the British Museum from N.-E. Central Burma with upperparts black and named the form *radcliffei*. To be more precise one came from Kyetpyin near Ruby Mines (and is the type) and one from 'My Pai Hill, Salween'.

Finally de Schauensee in 1929 named a form from N. Siam as *laeta* which was said to have the ear-coverts dull black, the colour of the back different to that of *melanoleuca* and *radcliffei* and to have the tips of the four central tail feathers rather dark grey. The author apparently did not compare his specimens with specimens of *melanoleuca* and *radcliffei* and was misled by relying on descriptions only,—always a somewhat risky procedure.

To deal with each form in detail; *castanoptera* can be dismissed in a few words. It seems to be a perfectly valid form of very limited distribution extending along the edge of the Shan plateau from Kalaw in the north to Nattaung in the south. It certainly is a local race of *melanoleuca* and not a species, as has been stated, as I find that single specimens of *melanoleuca* from the hills east of Fort Stedman have just a trace of the chestnut markings of *castanoptera*. I think there can be no doubt that *melanoleuca*, *radcliffei* and *laeta* are all one form; *laeta* can be dealt with quite shortly as through the kindness of Mr. H. G. Deignan I have been able to compare freshly obtained birds from Siam with recently collected specimens from the Ruby Mines (*radcliffei*) and the two series are precisely the same. The supposed differences between *melanoleuca* and *radcliffei* are explained by fading. Recently collected birds from Taunggyi in Southern Shan States are *radcliffei*, one collected there some years ago is now *melanoleuca*, as are others from Southern Shan States of equal date. One collected in 1923 at the Ruby Mines was identified at the British Museum in the same year as *radcliffei*; it is still there and today is *melanoleuca*.

I may note that Hume was not too precise in calling the tips of the central tail feathers pure white; in the specimens he examined the tips of the four central tail feathers were almost worn off; what is left of them is grey, not white like the tips of the laterals. He called the ear coverts black, in some slightly brown; fading has gone further since then and all the Muleyit specimens now have brown ear coverts. The mantle changes colour with time. Fresh specimens are almost black (*radcliffei*), old specimens have a varying chocolate tinge in proportion to their age in the cabinet.]

Actinodura ramsayi ramsayi.

3 ♂; 2 ♀.

These birds are common in regrowth in oak and pine forests between 4,500 to 6,000 feet. They have a trisyllabic call 'wee-oo-wee', the middle note lower in pitch and reminiscent of the call of Abbott's Babbler. One bird was watched while uttering a 4-note call 'Pee-ou-pee-pee', the last two notes long and rather wailing like the call of a Kite.

Staphida striata striata.

1 ♂; 2 ♀.

Found in thick undergrowth in oak and pine forest between 5,000 feet and 6,000 feet. They go about in parties, sometimes associating with *Alcippe*. Have been seen hanging upside down on twigs like Tits.

[Known from Byingyi, Karen Hills and N. Tenasserim so that its occurrence now in Karenni was to be expected. On the other hand birds from Thandaung a little farther north are nearer *rufigenis*. Further specimens in this area are desirable.]

Siva strigula castaneicauda.

5 ♂; 2 ♀; 2 unsexed.

Common in temperate forest above 6,000 feet. Keep to crowns of trees. Not shy birds.

[The type of *castaneicauda* came from 'Hill Tenasserim' by which was meant Mt. Muleyit. On the small material available it has been rather questionable how much the dullness of *castaneicauda* was due to fading compared with *strigula*. But these fresh specimens show that this dullness is a subspecific character; both *strigula* and *yunnanensis* are richer yellow below and more golden on the crown; in *castaneicauda* the bill is larger and the chestnut of the tail seems to be paler than in *yunnanensis* and more extensive than in *strigula*.]

Ixulus humilis clarkii.

1 ♂; 2 ♀.

Parties of 4 or 5 birds seen in pine forest at about 6,000 feet. The birds utter a low 'chuck-chuck' while working through the branches, now and then uttering a 'chir-chir-chir-chir' note. Parties also seen working through secondary growth on steep hillsides near the Mawchi road. One party seen was associated with a party of *Aegithaliscus concinnus*. Erected crests and moustachial streaks show up well in the field.

[This form was hitherto known only from the type locality Byingyi Mt. in Loi Long so that its extension now to the S.-W. corner of Karenni is of interest. It is evidently another of the forms peculiar to the Sittang-Salween divide.]

Herpornis xantholeuca xantholeuca.

2 ♂.

Obtained in pine forest at 6,000 feet where these birds were occasionally seen.

[Not previously recorded from Karenni, though to be expected, as it occurs in Southern Shan States, Karen Hills and N. Tenasserim.]

Cutia nipalensis nipalensis.

2 ♀.

Both specimens obtained on the same open pine ridge at about 6,500 feet. They keep to the tops of trees and utter a loud monotonous 'piou-piou-piou-piou ' repeated 6 to 12 times.

Pteruthius erythropterus acurlatus.

3 ♂; 1 ♀.

Found chiefly in oak and pine forest between 5,000 feet and 6,000 feet, but a specimen was also obtained in temperate forest at 8,000 feet. The call of this bird as it works through the tops of pines or oaks is one of the distinctive noises on Nattaung. The call is a loud and mellow 'cha-chew, cha-chew'. One specimen was obtained as it was hopping sideways along the branches of an oak uttering a different call, tri-syllabic in an ascending scale, the first syllable longer than the others. Males appear to predominate in the population, perhaps because they are easier to see.

[These are nearer *acurlatus* than to *yunnanensis*.]

Mesia argentauris.

2 ♂.

Common in regrowth about 5,000 feet. Often associated with parties of *Alcippe*. They utter a chattering note.

Minla ignotincta.

3 ♂; 1 ♀; 2 unsexed.

Two obtained above 6,000 feet, both in open pine forest and also in temperate forest. Not a shy bird. Keeps to the crowns of trees going about in small parties.

[The occurrence of this bird in Karenni is a large extension to its known range; the nearest known places where it occurs in Burma are Mt. Victoria in the Chin Hills and the hills east of Bhamo.]

Microscelis psaroides concolor.

1 ♀.

Fairly common in pine forests about 5,000 feet. A bird of the tree-tops.

Ixos maciellandi tickelli.

1 ♂; 1 ♀.

Common in evergreen between 5,500 and 7,000 feet, and also in pine and oak forest near secondary growth.

[The distributions of *tickelli*, *binghami*, and *similis* in eastern Burma require much further study and further collecting is essential.]

Alcurus striatus.

3 ♂; 1 unsexed.

Found in both pine and evergreen above 6,000 feet. Has a number of calls; one bird was shot making a tri-syllabic call with a drop in the middle--'whee-too-wheet'. Keeps much to the tops of tall trees.

[Known from the Karen Hills and Southern Shan States but not hitherto from Karenni.]

Molpastes chrysorrhoides klossi.

1 unsexed.

Only one pair seen, in shrubs on pine ridge at 5,000 feet.

[I keep this form as a race of *chrysorrhoides* for the time being; the relationships of *klossi*, *nigropileus* and *burmanicus* and their distributions require a great deal of further careful collecting. In some localities two of these forms appear to live side by side, but from all localities in the hills material is utterly inadequate; *chrysorrhoides* is a Chinese form and does not occur in Burma so far as we know.]

Xanthixus flavescens vividus.

2 ♂; 1 unsexed.

The common Bulbul of the re-growth and forests below 5,000 feet. Many young birds on the wing were seen.

Pycnonotus jocosus (Linn.).

Common in re-growth and low forest up to 5,000 feet.

Pycnonotus flaviventris flaviventris.

1 unsexed.

The only bird seen, shot in re-growth at 4,500 feet, which must be near the upper limits of this species.

Certhia discolor shanensis.

1 ♂; 2 ♀; 1 unsexed.

Commonly seen both in the pine forests and also in evergreen from 5,000 feet upwards, but most often in the pines. The note is a shrill loud 'duwee-teet'. It is not a shy bird and appears so absorbed in its hunt for insects in the bark that it allows a close approach.

Pnoepyga pusilla pusilla.

1 ♂.

The only specimen seen. Was obtained in the undergrowth in evergreen near a stream at 6,000 feet,

Tesia cyaniventer.

1 ♀.

Obtained in the same place as *Pnoepyga* at 6,000 feet. It was uttering its characteristic shrill 'chirrup' which betrayed its presence.

[Recorded from Karen Hills and Mt. Byingyi but not before from Karenni. This specimen belongs to the form *olivea*.]

Brachypteryx cruralis.

3 ♂; 1 unsexed.

All the specimens were obtained in evergreen undergrowth at about 7,000 feet. No females of this species were seen, though 2 of the males shot were together.

Brachypteryx nipalensis nipalensis.

2 ♀; 1 unsexed.

Two specimens obtained in thick evergreen undergrowth near a stream at 5,500 feet and one in grasses in re-growth at 5,000 feet. No males seen.

[Hitherto Kalaw is the only locality where this species has been obtained between Bhamo in the north and Tenasserim in the south. I have already given reasons for uniting *Heteroxenicus* with *Brachypteryx* (*Ibis*. 1939, p. 349).]

Saxicola caprata burmanica.

Pairs seen along the road in re-growth at about 5,000 feet. No specimens obtained.

Rhodophila ferrea ferrea.

2 ♀.

Common in the open pine forests up to 7,000 feet.

Henicurus schistaceus.

1 ♀.

Shot in a stream at 5,000 feet in pine forest and found where the streams flow through rather open country, as opposed to evergreen.

[Though known from the Karen Hills this has not been recorded before from Karenni.]

Henicurus leschenaulti indicus.

1 ♂.

These birds take the place of the Slaty-backed Forktail in the higher reaches of the streams above 6,000 feet where they run through evergreen.

[This also has not been obtained actually in Karenni before, though it has been in the neighbouring states.]

Chaimarrornis leucocephalus.

Birds seen in rocky streams at about 5,000 feet in several places. Undoubtedly breeds here. Two birds seen together at a big waterfall on the Mawchi road at 5,000 feet.

[A slight extension of range southwards from the Southern Shan States where it occurs.]

Calliope calliope.

A male seen in thick re-growth at about 4,500 feet.

Turdus obscurus obscurus.

1 ♀.

Specimen obtained out of a party of 15 to 20 birds feeding on ground in open oak forest at 6,000 feet. Also seen in evergreen. When approached all the birds flew swiftly up into the tops of the nearby trees with thin Pipit-like calls of 'zip-zip'. In habits this thrush resembles the Redwings and Fieldfares rather than the Gorund-Thrushes.

[I have already dealt with the question of *subobscurus* which Salvadori described from the Karen Hills (*Ibis*. 1935, p. 255). Wardlaw Ramsay obtained *faeae* in Karenni and probably this and *obscurus* occur together in mixed flocks as winter visitors.]